



ONE/TWO FAMILY SUBGRADE VERIFICATION FORM

FOR MECKLENBURG COUNTY CODE ENFORCEMENT USE ONLY

CHECK AS APPROPRIATE:

[☐] **RESIDUAL SOILS** [☐] **STRUCTURAL FILL** Approx. Depth: _____ ft.

Date: _____

Project Information:

Subdivision: _____
Lot Number: _____
Street Address: _____
Building Permit #: _____

Builder/General Contractor:

Company Name: _____
Address: _____
Phone Number: _____

Soil Engineering Company:

Name: _____
Address: _____
Phone Number: _____
Project Manager: _____
Project Number: _____

Allowable Bearing Pressure: _____ **psf**

Personnel from our firm have verified the bearing capacity of soils intended to support the residence noted above. Where appropriate, we have monitored proofrolling of residual soil prior to fill placement, conducted laboratory Proctor and field density tests on fill soil, and/or conducted dynamic cone penetrometer tests on subgrade soils. This work performed in accordance with accepted engineering practice as required by the North Carolina State Building Residential Code for One and Two Family Dwellings.

Form revised:

March 23, 1999
May 20, 2005
May 6, 2015

Signature/Seal of licensed professional engineer

Instructions for use of Mecklenburg County Subgrade form.

The State of NC requires the code official to perform a footing inspection under section 107 of the NC Administrative Code. In certain situations as indicated in chapter 4 of the NC Residential Building Code, additional testing is required as outlined below. A task force consisting of representation from the industry, engineering firms and code officials reviewed the use of this form as well as the language contained on this document. No modification to this form allowed except filling in the required information and appropriate letterhead. This subgrade will be required under the following conditions.

1. A subgrade verification form used is for residential one and two family dwellings and townhouses only.
2. All information filled out & engineer's seal is required, seal signed and dated.
3. Subgrade form is **required** on all **fill** lots for verification of bearing capacity of fill material.
4. **Upon inspection** if a code official finds the soil to be in **good condition** but lot appears to be a fill lot, the inspector shall disapprove with a neutralizing code used so that there are no fee/trip charges or a defect failure charges to the permit holder. In the inspection notes the inspector will indicate **"Pour at own risk pending subgrade verification form"**. The subgrade form will be required to be present at the next inspection and the permit holder will be responsible for calling back in the footing inspection with the next inspection request. Upload Subgrade form online as a PDF under the permit in question.
5. **Upon inspection** if the code official finds that an area has **questionable soil** conditions then an option will be given to the permit holder to dig out to solid ground or have tested by a geotechnical engineering company. This inspection would result in a disapproval. The following scenarios could occur with the testing of the footer:
 - a) After testing by engineer or designated personnel and the soil is determined to be adequate for required bearing, the permit holder can proceed with concrete placement. The footing inspection needs to be requested again with next inspection (such as a foundation inspection- FT/FD) and the subgrade letter uploaded to the permit for inspector to view and approve **(No corrective measures needed, no re-inspection required by inspector)**.
 - b) After testing by engineer or designated personnel and the soil was unsuitable for a certain depth, the engineering firm's representative can remain on site while soft areas removed. After removal of questionable soils and testing the footer base is adequate, the permit holder can proceed with the placement of concrete. The footing inspection needs to be requested again with the next inspection (such as a foundation inspection- FT/FD) and the subgrade letter uploaded to the permit for inspector to view and approve. **(Note: corrective measures require digging out soft areas and retesting while engineering firm onsite, no re-inspection required by inspector)**.
 - c) After testing by engineer or designated personnel, the soil is determined to be unsuitable and repairs needed such as digging out and adding gravel, reinforcement installation or pile/caissons needing engineering design, repairs made as directed and another footing inspection requested. Inspector will need to review repairs made prior to concrete placement and review correction per engineering design or letter seal by a NC Licensed Professional Engineer. Engineered repair design or letters should be uploaded to the permit for inspector review during re-inspection **(Engineered repairs require a re-inspection)**.
6. **Upon inspection** if the code official finds that an area has **questionable soil** conditions and the site has already been tested the inspector shall document the specific area of concern. The inspection will be disapproved with appropriate notes asking the soil company to revisit the site for review of the specific areas of concern and new subgrade letter **(example: "Rear house foundation wall 6' in from left side for 12' was questionable and soft at time of inspection, please retest this area")**. After review by the appropriate engineering firm one of three steps as outlined in **5a, 5b, 5c** above should be followed.
7. The subgrade verification form is required on any lot that the building design requires more than 2000psf soil bearing capacity. All required bearing requirements **over 2000psf** requires testing per chapter 4 of the NC Residential Building Code.